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09/492,300	01/27/2000	Toshitaka Agano	Q55891	9715

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/492,300	AGANO, TOSHITAKA	
	Examiner	Art Unit	
	Jennifer T. Nguyen	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-22 and 24-37 is/are rejected.
- 7) ☒ Claim(s) 16, 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to Amendment filed on 7/5/06.

Claim Rejections - 35 USC § 102

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Beeteson (Patent No. Us 5,196,382).

Regarding claim 1, referring to Fig. 2, Beeteson teaches a display device, having:
at least two sets of luminance (50 and 55) including an image maximum luminance for displaying an image (i.e., displaying whole surface of the LCD) and an ordinary maximum luminance for displaying non-image information (i.e., displaying window icon or typing text), said ordinary maximum luminance being lower than said image maximum luminance (col. 1, lines 41-45 and col. 2, lines 40-55).

Claim Rejections - 35 USC § 103

3. Claims 2-7, 18, 25, 26, 28, 29, 31 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Ito (Patent No. US 6, 144,064).

Regarding claims 2-4, 28, 29, 31, and 37, Beeteson differs from claims in that he does not specifically teach a luminance switching unit has a selection unit which makes adjustment to the brightness of the display depending on the image maximum luminance in a case of display of only the image and makes adjustment to the brightness of display depending on said ordinary maximum luminance and the brightness of display depending on said image maximum

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luminance. However, Ito teaches a luminance switching unit has a selection unit (2) which makes adjustment to the brightness of the display depending on the image maximum luminance (EL1 and EL3) in a case of display of only the image and makes adjustment to the brightness of display depending on said ordinary maximum luminance (i.e., EL2) and the brightness of display depending on said image maximum luminance (col. 1, lines 50-61 of Ito). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the switching unit as taught by Ito in the system of Beetsen in order to easily control the brightness of display.

Regarding claim 5, the combination of Beetsen and Ito teaches that an entire display screen is adjusted to a brightness of display not higher than said ordinary maximum luminance in accordance with an operation using graphical user interface (col. 1, lines 50-61 of Ito).

Regarding claim 6, the combination of Beetsen and Ito teaches adjustment of a brightness of display in relation to an ordinary maximum luminance and a maximum luminance is performed by adjustment of a light source (col. 1, lines 11-17 of Ito).

Regarding claim 7, Beetsen teaches the non-image information comprises textual information (col. 2, lines 40-55).

Regarding claim 18, the combination of Beetsen and Ito teaches a light source control unit (i.e., inverters 1-3) which controls current through each of the multiple light sources independently to increase brightness in display screen (col. 1, lines 50-61 of Ito).

Regarding claims 25 and 26, the combination of Beetsen and Ito teaches brightness of a display of the non-image information at the ordinary maximum luminance is less than a brightness of a display of the image without any loss of gradation resolution of the non-image

information (col. 1, lines 50-61 of Ito).

4. Claim 20, 21, 27, 30, 32, 33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Ito (Patent No. US 6, 144,064) and further in view of Reinhardt (Patent No. US 5,598,565).

Regarding claims 20, 21, 27, 30, 32, 33, and 35, the combination of Beeteson and Ito differs from claims 20, 21, 27, 30, 32, 33, and 35 in that it does not specifically teach the region of the display screen corresponds to one of the image and the non-image information and the another region of the display screen corresponds to another of the image and non-image information. However, refining to Fig. 3, Reinhardt teaches a region of the display screen corresponds to the image (320) and the another region of the display screen corresponds to another of the image and non-image information (310, 330). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the display screen as taught by Reinhardt in the system of the combination of Beeteson and Ito in order to display the information to viewer efficiently.

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Ito (Patent No. US 6, 144,164) and further in view of Tew et al. (Patent No. US 6,232,963).

Regarding claims 8 and 9, the combination of Beeteson and Ito differs from claims 8 and 9 in that it does not specifically teaches the image is displayed at a maximum luminance level for the display represented by n bits and wherein the non-image information is displayed at a maximum level represented by less than n bits or n-3 bits. The combination of Beeteson and Ito teaches the image is displayed at a maximum luminance level and the non-image information is

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displayed at a maximum level which is lower than the maximum luminance level of the image. Moreover, Tew teaches greater bit-weights are display with more illumination than bit-planes having smaller bit-weights (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the bit-weights as taught by Tew in the system of the combination of Beeteson and Ito in order to design a desired brightness level for display.

Regarding claim 10, the combination of Beeteson, Ito, and Tew teaches adjustment of brightness of display in relation to said ordinary maximum luminance and said image maximum luminance is performed by adjusting of light source for display (col. 1, lines 50-61 of Ito).

6. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Ito (Patent No. US 6,144, 164), Tew et al. (Patent No. US 6,232,963), and further in view of Saito et al. (Patent No. US 5,315,695).

Regarding claim 11, the combination of Beeteson, Ito, and Tew differs from claim 11 in that it does not specifically teaches adjustment of the light source comprises increasing or decreasing current through the light source. However, Saito teaches the current amount to be supplied to the light source become greater, the light source emits more light so as to raise the luminance of the display (col. 4, lines 32-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the adjustment of the light source as taught by Saito in the system of the combination of Beeteson, Ito, Tew in order to control the brightness of the display efficiently.

Regarding claim 12, the combination of Beeteson, Ito, Tew, and Saito teaches adjustment of brightness of display in relation to said ordinary maximum luminance and said image

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maximum luminance is performed by adjusting of light source for display (col. 1, lines 50-61 of Ito).

Regarding claim 13, the combination of Beeteson, Ito, Tew, and Saito teaches a light source control unit (i.e., inverters 1-3) which controls current through each of the multiple light sources independently to increase brightness in display screen (col. 1, lines 50-61 of Ito).

7. Claim 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382), Ito (Patent No. US 6, 144, 164), Tew et al. (Patent No. US 6,232,963) in view of Saito et al. (Patent No. US 5,315,695) and further in view of Iwamoto et al. (Patent No. US 6,532,474).

Regarding claims 14 and 15, combination of Beeteson, Ito, Tew, and Saito teaches adjusting brightness of the display based on the control signal (i.e., input mode is defined as text, the lower luminance is applied) (col. 2, lines 39-53 of Beeteson).

The combination of Beeteson, Ito, and Saito differs from claims 14 and 15 in that it does not specifically teaches display device receiving a control signal supplied externally to distinguish image and non-image information for display.

However, referring to Figs. 7 and 10, Iwamoto teaches display device receiving a control portion (8-1) to distinguish image data and text data for display (col. 10, lines 34-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the distinguish image and text information for display as taught by Iwamoto in the system of the combination of Beeteson, Ito, Tew, and Saito in order to provide enough and appropriate brightness for viewer.

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8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Iwamoto et al. (Patent No. US 6,532,474).

Regarding claim 17, Beeteson teaches adjusting brightness of the display based on the control signal (i.e., input mode is defined as text, the lower luminance is applied) (col. 2, lines 39-53 of Beeteson). Beeteson does not specifically teaches display device receiving a control signal supplied externally to distinguish image and non-image information for display. However, referring to Figs. 7 and 10, Iwamoto teaches display device receiving a control portion (8-1) to distinguish image data and text data for display (col. 10, lines 34-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the distinguish image and text information for display as taught by Iwamoto in the system of Beeteson in order to provide enough and appropriate brightness for viewer.

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382), Ito (Patent No. US 6, 144, 164) in view of Reinhardt (Patent No. US 5,598,565) and further in view of Iwamoto et al. (Patent No. US 6,532,474).

Regarding claim 37, the combination of Beeteson, Ito, and Reinhardt teaches adjusting brightness of the display based on the control signal (i.e., input mode is defined as text, the lower luminance is applied) (col. 2, lines 39-53 of Beeteson). The combination of Beeteson, Ito, and Reinhardt differs from claims in that it does not specifically teaches display device receiving a control signal supplied externally to distinguish image and non-image information for display. However, referring to Figs. 7 and 10, Iwamoto teaches display device receiving a control portion (8-1) to distinguish image data and text data for display (col. 10, lines 34-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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incorporate the distinguish image and text information for display as taught by Iwamoto in the system of the combination of Beeteson, Ito, and Reinhardt in order to provide enough and appropriate brightness for viewer.

10. Claims 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Hoshi (Patent No. US 6,020,944).

Regarding claims 19 and 24, Beeteson differs from claims 19 and 24 in that he does not specifically teach the image maximum luminance is substantially in the range of 400 cd/mz - 10,000 cd/mz and the ordinary maximum luminance is substantially in the range of 40 cd/mz - 400 cd/mz. However, Hoshi teaches high luminance is about several thousands cd/m² and the lower luminance is substantially in the range of 80- 120 cd/mz (col. 2, lines 26-30). Therefore, it would have been obvious to obtain the range of the luminance level as taught by Hoshi in the system of Beeteson in order to provide enough luminance to view the image accurately.

11. Claims 22 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Ito (Patent No. US 6, 144,164) and further in view of Vara et al. (Patent No. US 6,063,030).

Regarding claims 22 and 36, the combination of Beeteson and Ito teaches having a plurality of ordinary maximum luminance levels (Fig. 2 of Ito). The combination of Beeteson and Ito differs from claims 22 and 36 in that it does not specifically teach a diagnostic apparatus connected to the display device. However, Vara teaches a diagnostic apparatus connected to the display device (col. 5, lines 34-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the diagnostic apparatus as

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taught by Vara in the system of the combination of Beeteson and Ito in order to perform accurate, bright display image and avoid stress on the viewer's, specially in the medical field.

12. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beeteson (Patent No. US 5,796,382) in view of Ito (Patent No. US 6, 144,164) and further in view of Iwamoto et al. (Patent No. US 6,532,474).

Regarding claim 24, the combination of Beeteson and Ito teaches all the limitations except a means for pointing shown in the display screen is at an image area or at a non-image area information area of the display screen. Iwamoto teaches pen touch for pointing shown in the display screen is at an image area or at a non-image area information area of the display screen (col. 11, lines 36-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the pointing means as taught by Iwamoto in the system of the combination of Beeteson and Ito in order to control the operation of the device quickly.

13. Claims 16 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

14. Applicant's arguments filed 12/2/05 have been fully considered but they are not persuasive.

Applicant's remarks regarding Beeteson on page 9 are not persuasive. Claim 1 does not require a portion of the screen is displaying an image or non-image information to determine the

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illumination level. Claim 1 requires the display device having an image maximum luminance for displaying an image and an ordinary maximum luminance for displaying non-image information. Beeteson teaches when the display device using a whole surface of the LCD to display image information, all backlight lamps are turned on, this corresponds to the display screen having a maximum luminance, when the display device using a portion surface to display non-image information (a window icon or typing text), only one backlight lamp is turned on, this corresponds to an ordinary maximum luminance for displaying non-image information as claimed.

Applicant's remarks regarding claims 8, 9 on pages 10-11 are not persuasive since applicant is reading limitation into the claims.

15. Applicant's arguments with respect to claims 1-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T. Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7693. The fax phone number for the organization where this application or proceeding is assigned 571-273-8300.


information regarding the status of an application may be obtained from the Patent Application information Retrieval (PMR) system. Status information for published applications

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9/26/06



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